

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Original) A method of detecting osteolysis in a patient comprising:
 - (a) obtaining a sample containing lymphocytes from the patient; and
 - (b) determining the amount of CD4⁺CD25⁺ regulatory T cells wherein an increase in regulatory T cells as compared to a control indicates that the patient has osteolysis.
2. (Original) A method of detecting osteolysis according to claim 1 comprising:
 - (a) obtaining a sample containing lymphocytes from the patient; and
 - (b) determining the amount of CD4⁺CD25⁺ regulatory T cells as a percentage of the total CD4⁺ lymphocytes in the sample, wherein a level of regulatory T cells of greater than 45% indicates that the patient has osteolysis.
3. (Original) A method according to claim 2 wherein the regulatory T cells are present in an amount of greater than 50% of the total lymphocytes in the sample.
4. (Original) A method according to claim 2 wherein the regulatory T cells are present in an amount of greater than 60% of the total lymphocytes in the sample.
5. (Original) A method according to claim 2 wherein the regulator T cells are present in an amount of greater than 70% of the total lymphocytes in the sample.
6. (Currently amended) A method according to ~~any one of claims 1-5~~ claim 1 wherein the sample is peripheral blood.
7. (Original) A method according to claim 6 wherein the regulatory T cell h as the phenotype CD3⁺CD4⁺CD25⁺CD45RA⁺.
8. (Original) A method according to claim 7 wherein the regulatory T cells are non-activated (CD80/86⁻).

9. (Currently amended) A method according to ~~claims 1-6~~ claim 1 wherein the sample is synovial fluid, synovial tissue or interface tissue between the failed component and the bone defect.
10. (Original) A method according to claim 9 wherein the regulatory T cells are activated (CD80/86⁺).
11. (Currently amended) A method according to ~~any one of claims 1-10~~ claim 1 wherein the osteolysis is a result of total hip replacement.
12. (Currently amended) A method according to ~~any one of claims 1-10~~ claim 1 wherein the osteolysis is a result of primary or metastatic bone cancer.
13. (Currently amended) A method according to ~~any one of claims 1-10~~ claim 1 wherein the osteolysis is a result of a metabolic bone disease.
14. (Original) A method according to claim 13 wherein the metabolic bone disease is Paget disease.
15. (Original) A kit for detecting osteolysis comprising reagents for detecting CD4⁺CD25⁺ regulatory T cells as well as instructions for the use of the kit.
16. (Original) A kit according to claim 15 wherein the reagents comprise antibodies that bind to CD4 and antibodies that bind to CD25.